Date	HeadLine	Outlet
11/08/2012	Environmentalists, Industry Square Off On Emissions Data	Oil and Gas Investor - This Week

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Environmentalists, Industry Square Off On Emissions Data

The footnotes to scientific advancement are often filled with the feuds that held them back. But in the pitched battle between environmentalists and shale oil and gas extractors, what constitutes "science" is one of the biggest sources of friction.

Environmentalist groups petitioned the Environmental Protection Agency (EPA) on Oct. 24 to compel oil and gas extractors to report data on the disposal and release of toxic chemicals during operations.

The evidence, the groups said, points to dangerous emissions from hydraulic fracturing and drilling.

The oil and gas industry response: Evidence shows fracing is safe, and that the industry is troubled that report requirements would be time-consuming and costly.

But some scientists say emissions data is based on widely varying assumptions and that further study will help guide industry on how to measure, monitor and manage emissions from wells.

Pushing ahead, the Environmental Integrity Project (EIP) and 16 others organizations want oil and gas extractors to submit data to the Toxics Release Inventory (TRI), which contains information about 650 toxic chemicals.

Forcing extractors to report emissions will bring "daylight to dark corners by requiring companies to quantify and report their pollution" in a public database, said Eric Schaeffer, EIP project director. The groups note electric utilities, coal mining and metal mining have reported to the TRI for nearly 15 years.

Steve Everley, a spokesman for industry advocacy group Energy in Depth, (EID) said the petition is a "messaging exercise" and that the EPA, under Democrat and Republican administrations, has concluded several times that TRI isn't appropriate to monitor extraction emissions.

TRI reporting requirements take up an average of 48 man-hours per facility and cost \$2,400, according to EID. Reporting to the TRI could result in well operators preparing dozens or even hundreds of such reports, EID said.

The United States has roughly 500,000 oil wells in operation. If just half of those operators were required to file a report, the endeavor could cost \$600 million and consume more than 1,300 years worth of man hours, Hart Energy found.

"If the goal is to frighten the public, then the groups behind this latest petition drive can pat themselves on the back for a job well done," Everley said. "But those same groups are fundamentally uninterested in an informed and fact-based discussion about risk, because that would mean actually having to defend their baseless claims."

What constitutes evidence is an open question.

For instance, David Allen, director of the Cockrell School of Engineering's Center for Energy and Environmental Resources at the University of Texas at Austin, is studying methane emissions from shale gas production. Allen was a lead investigator for the first and second Texas Air Quality Studies, which had a substantial impact on air quality policies in the state.

"We hope to bring hard, scientific findings to an environmental issue that is still not well understood," Allen said.

EIP said a congressional report based on voluntary industry disclosures shows extractors regularly uses products containing at least 45 TRI-listed chemicals, including methanol, 2-butoxyethanol and ethylene glycol.

The EPA "estimates the oil and gas industry releases 127,000 tons of hazardous air pollutants every year, second only to power plants and more than any of the other industries already reporting to TRI," EIP said.

Where does that figure come from? EIP extrapolated it from an EPA estimate of industry emissions to support a proposed air rule. EPA said the regulation would block 38,000 tons of emissions or "nearly 30 percent."

That number, however, is based on analysis that inconsistently rounded "significant figures," according to the EPA. To compensate, the EPA rounded its final result, acknowledging its number "does have uncertainty" but was otherwise valid.

The environmental groups also say EPA investigations of natural gas development in Pavillion, Wyo., and Dimock, Pa., found toxic chemicals and methane present in groundwater and drinking-water wells.

The Pavillion findings were recently disputed by industry groups that say subsequent data from U.S. Geological Survey testing revealed flawed EPA sampling and results that couldn't be replicated.

Energy in Depth points to several studies that have shown well emissions are generally safe:

- --In California, a study found emissions associated with high-volume hydraulic fracturing were within regional air quality standards.
- --In Pennsylvania, the Department of Environmental Protection conducted tests in the vicinity of the Marcellus shale and did not identify concentrations of substances that would lead to air-related health problems.
- --In Texas, the Commission on Environmental Quality found that air monitors in the Barnett shale area showed no levels of concern for any chemicals.

The EPA has said that some of the largest air emissions in the oil and gas industry occur as natural gas wells have been fractured for production, releasing toxins such as benzene, ethylbenzene and n-hexane.

Those conclusions have drawn scorn from the industry.

Mary Lashley Barcella , director of IHS CERA (NYSE: IHS), said the assumptions underlying EPA's methodology do not reflect current industry practices.

If methane emissions were as high as the EPA assumed, extremely hazardous conditions would be present at well sites - something the industry and regulators would not tolerate.

And the U.S. Energy Information Administration (EIA) reported in August that carbon dioxide produced from energy use was at its lowest point in two decades, despite increased fracing. The decline is partly due to low-cost natural gas supplanting coal-fired energy, EIA said.

Still, people living near well sites are concerned. Deb Thomas, Powder River Basin Resource Council organizer and resident of Clark, Wyo., said those who fear for their health believe disclosure is vital.

"We need to know what we're being exposed to so that physicians can diagnose and treat our health problems and we can make informed decisions about staying in the communities we live in," Thomas said.

The industry has voluntarily taken steps to provide more information to the public.

In the past year, 200 energy-producing companies with more than 15,000 well sites have registered with FracFocus, the national hydraulic fracturing chemical registry. On Oct. 17, FracFocus announced Mississippi would join Montana, Oklahoma, Texas, Pennsylvania, North Dakota, Colorado and Louisiana in disclosing information.